How do I calculate a 7-day moving average in Excel?

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The process of calculating a 7-day moving average in Excel involves taking the average of a set of data points over a period of 7 consecutive days, and then updating the average as new data points are added. This can be achieved by using the AVERAGE function in Excel, combined with the use of relative and absolute cell references to ensure the correct data points are included in each calculation. The resulting moving average can provide a more accurate representation of trends and patterns in the data, as it smooths out any short-term fluctuations.

Excel: Calculate 7 Day Moving Average

In time series analysis, a 7-day moving average is simply the average value of the 7 days leading up to and including a certain date.

The following example shows how to calculate a 7-day moving average for a dataset in Excel.

Example: Calculate 7 Day Moving Average in Excel

Suppose we have the following dataset that shows the total sales made by some company during 20 consecutive days:

	A	B	C	D	E	F
1	**Date**	**Sales**				
2	1/1/2023	8				
3	1/2/2023	10				
4	1/3/2023	12				
5	1/4/2023	12				
6	1/5/2023	13				
7	1/6/2023	10				
8	1/7/2023	11				
9	1/8/2023	13				
10	1/9/2023	15				
11	1/10/2023	18				
12	1/11/2023	20				
13	1/12/2023	23				
14	1/13/2023	28				
15	1/14/2023	18				
16	1/15/2023	19				
17	1/16/2023	20				
18	1/17/2023	25				
19	1/18/2023	28				
20	1/19/2023	30				
21	1/20/2023	27				
22						

To calculate the 7-day moving average of the sales values, we can type the following formula into cell C8:

=AVERAGE(B2:B8)

We can then click and drag this formula down to each remaining cell in column C:

C8 =AVERAGE(B2:B8)

	A	B	C	D	E
1	**Date**	**Sales**	**7-Day Moving Avg. of Sales**		
2	1/1/2023	8			
3	1/2/2023	10			
4	1/3/2023	12			
5	1/4/2023	12			
6	1/5/2023	13			
7	1/6/2023	10			
8	1/7/2023	11	10.8571		
9	1/8/2023	13	11.5714		
10	1/9/2023	15	12.2857		
11	1/10/2023	18	13.1429		
12	1/11/2023	20	14.2857		
13	1/12/2023	23	15.7143		
14	1/13/2023	28	18.2857		
15	1/14/2023	18	19.2857		
16	1/15/2023	19	20.1429		
17	1/16/2023	20	20.8571		
18	1/17/2023	25	21.8571		
19	1/18/2023	28	23		
20	1/19/2023	30	24		
21	1/20/2023	27	23.8571		

The values in column C represent the 7-day average of the values in the sales column.

For example, the 7-day average of sales on 1/7/2023 is 10.8571.

We can confirm this is correct by manually calculating the average of sales for the seven days leading up to and including this date:

	A	B	C	D	E
1	**Date**	**Sales**	**7-Day Moving Avg. of Sales**		
2	1/1/2023	8			
3	1/2/2023	10			
4	1/3/2023	12			
5	1/4/2023	12			
6	1/5/2023	13			
7	1/6/2023	10			
8	1/7/2023	11	10.8571		
9	1/8/2023	13	11.5714		
10	1/9/2023	15	12.2857		
11	1/10/2023	18	13.1429		
12	1/11/2023	20	14.2857		
13	1/12/2023	23	15.7143		
14	1/13/2023	28	18.2857		
15	1/14/2023	18	19.2857		
16	1/15/2023	19	20.1429		
17	1/16/2023	20	20.8571		
18	1/17/2023	25	21.8571		
19	1/18/2023	28	23		
20	1/19/2023	30	24		
21	1/20/2023	27	23.8571		

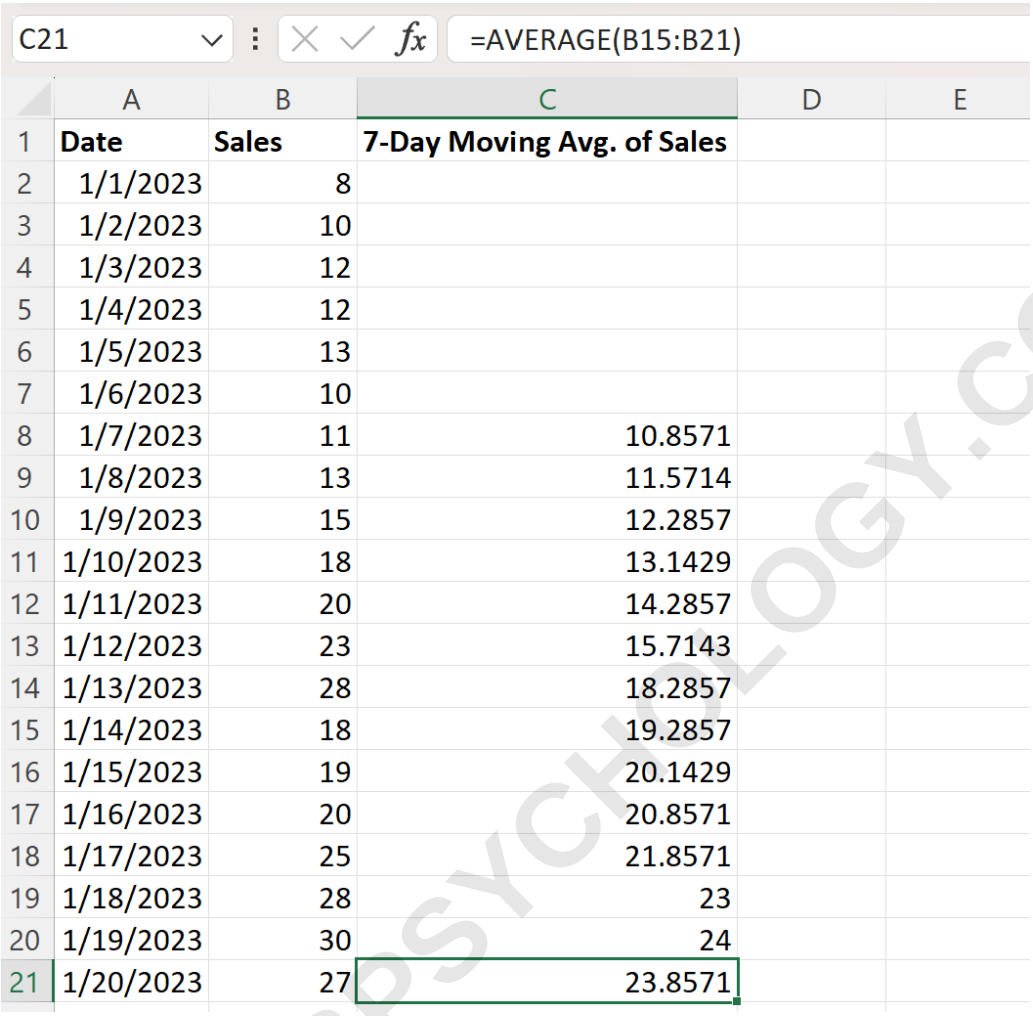
7-Day Sales Avg. on 1/7/2023: (8+10+12+12+13+10+11) / 7 = 10.571

This matches the value calculated by our formula.

Since we clicked and dragged this formula down to each cell in column C, the formula automatically updated to use the most recent 7 days to calculate each 7-day moving average.

For example, cell C21 uses the range B15:B21 to

calculate its 7-day moving average:



C21 =AVERAGE(B15:B21)

	A	B	C	D	E
1	Date	Sales	7-Day Moving Avg. of Sales		
2	1/1/2023	8			
3	1/2/2023	10			
4	1/3/2023	12			
5	1/4/2023	12			
6	1/5/2023	13			
7	1/6/2023	10			
8	1/7/2023	11	10.8571		
9	1/8/2023	13	11.5714		
10	1/9/2023	15	12.2857		
11	1/10/2023	18	13.1429		
12	1/11/2023	20	14.2857		
13	1/12/2023	23	15.7143		
14	1/13/2023	28	18.2857		
15	1/14/2023	18	19.2857		
16	1/15/2023	19	20.1429		
17	1/16/2023	20	20.8571		
18	1/17/2023	25	21.8571		
19	1/18/2023	28	23		
20	1/19/2023	30	24		
21	1/20/2023	27	23.8571		

Note: We had to type our formula starting in cell C8 because this represented the first date that had 7 days to use for calculating the 7-day moving average.

The following tutorials explain how to perform other common tasks in Excel: